

City of Gallup Water Supply

May 20, 2020

History:

The City's long term reliance on groundwater supply is explained in the attached Rebuttal Report for Application No. G-22 – Overview of Gallup's Present Groundwater Supply and Existing Problems, City of Gallup, New Mexico, Dated May 2015 by DePauli Engineering & Surveying LLC of Gallup, NM. In summary, Gallup has not had access to surface water and has had to rely solely on groundwater from extremely deep confined aquifers. Over the past 120 years, the City has constructed or acquired over 45 wells and only 15 wells are in service or operational today. Major drop in water levels, reduced pumping, sedimentation, water quality problems, cascading and increased pumping lifts and associated costs are the reasons that 30 wells are out of service, never to be used again. All other municipal and industrial users in the region also rely on the same limited groundwater source, making it a fast depleting resource. Gallup is unique among New Mexico' municipalities in the depth of its municipal wells and the extremely high cost for construction and operation, maintenance and replacement of those wells.

Production:

See the attached Table A - City of Gallup Annual Groundwater Production for groundwater diversions. Over the past 10 years the City's average annual groundwater production is about 3,000 acre-feet.

Gallup Sandstone Aquifer:

Groundwater diversions from the Gallup Sandstone Aquifer consist of wells located in the Gallup Basin, G-96, and the San Juan Basin, SJ-113. The average production from the Gallup Sandstone (GS) aquifer is 2,571.33 acre-feet annually for the same 10-year period. As described in the Overview Report, most of the wells in this aquifer are out of service and the remaining wells cannot produce the same amount as originally drilled. For example, Munoz 1A well pumped about 700 gpm originally. Currently the well pumps about 350 gpm. This is one-half production. Another example is SJ-113(Junker No. 1) which is one of the City's most important wells. It produces about 600 gpm when pumping and over the past 5 years it has produced about 400 ac-ft annually. In the past (1990), Junker No. 1 well has produced over 1100 ac-ft per year. Also, since the Overview Report was published, SF Well 12 has silted in and is out of service.

Dakota/Westwater Aquifer:

The City's groundwater diversion permit in the Dakota/Westwater (D/WW) formation, G-97, is only 492 acre-feet annually and the City has five (5) wells pumping water from the Dakota/Westwater formation. Three of these wells pump from the Gallup Sandstone too. They are dual completion wells. As shown in Table A the limiting amount of 492 acre-feet per year (afy) was exceeded once in the past 10 years and average annual production is 364.41 ac-ft, about 74% of the permitted amount. The City has tried to maintain a buffer to not exceed the 492 afy

permitted amount by limiting operation of the wells, or else these wells must stop pumping when the diversion limit is reached when water is needed.

G-22:

The G-22 groundwater permit was recently approved by the NM OSE. This permit grants up to 1,200 acre-ft diversion in the first 10 years from the San Andres-Glorieta aquifer which is deeper than the GS and the D/WW aquifers. No wells are ready for equipping and the collector lines, electrical power and other facilities are not in place.

NGWSP:

Once the NGWSP is constructed and becomes operational, surface water will be diverted from the San Juan River and conveyed to Gallup where it will be available for use through the Gallup Regional Water System. Up to 7,500 afy of surface water will be available to Gallup and an additional 4,647 afy will be available for Reach 14 facilities use and demands.

Demand:

Gallup has an aggressive and successful conservation program that is widely cited by the New Mexico State Engineer as an example for other municipalities. This keeps the per capita water use to the lowest extent possible.

In 2010 the City of Gallup and McKinley County executed a Joint Powers Agreement which identifies a mechanism for small water systems in the County to access the NGWSP water. The JPA creates a Water Board for the region. The Water Board would help small communities negotiate water rates, ensure operation, and help ensure water supply during droughts or other times when water is not available due to mechanical failures. Once the Gallup Regional Water System infrastructure is constructed and operational, the initial water supply would be ground water from the City's existing and proposed wells then switched to surface water when the NGWSP pipeline is in place and operating. The delivery date of surface water was set to be December 31, 2024, however with the extension of time that was recently approved the delivery date is unknown. Some estimate at least a 5 year delay. The entire area is dependent on groundwater until the surface water is available. This means that the unincorporated communities currently served and future communities like Williams Acres and Catalpa Hills will connect to the Gallup Regional Water System and will receive groundwater supplied by COG wells, as opposed to imported surface water until the surface water is available. In addition, the City currently provides water to the Rhino Health glove factory, Reach 14.5 Manuelito, and Boardman Indian Allotment. Reaches 14.1/14.2 and Reaches 14.6/14.7/14.8 will be connected to the Gallup Regional Water System before the surface water arrives. Any other economic opportunity in the area will have to use groundwater supplied through the Gallup Regional Water System too.

Operation:

To the extent possible given the physical limitations of the existing aquifer, the City has operated its well field in a manner that ensures water supply to meet demands while maintaining and

managing the water level in the wells to prevent over pumping and damaging the City's remaining wells and the Gallup Sandstone aquifer (G-96 and SJ113). With the current wells and diversion permits in place the City can produce about 3,000 acre-feet of water annually. Approval of the G-80/SJ-1491 groundwater diversion permit will immediately allow more water to be pumped from existing wells that are dually completed in the D/WW aquifer for immediate supply. However, most of the gains will be offset by the loss of Well No. 12 and pumping reductions in the remaining GS wells. To ensure an adequate water supply to the Gallup Regional Water System through 2030, two (2) new wells are proposed under the G-80/SJ-1491 permit and two (2) wells are proposed under G-22. These proposed wells along with water from the Twin Lakes Well should holdup the City's water supply until the surface water is available.

Financial:

The City is struggling financially to ensure that its wells are operating because most of the submersible well pump assemblies only last about 3 to 5 years and it costs about \$200,000.00 each to return the well to service. This is the case with Junker No. 1 which is one of the City's highest producing wells. Junker No. 1 has been out of service since July 2019 and the City is working to get it back up and running but must delay the repairs until funds are available even when high summer demands are underway. As stated above, the City anticipated surface water delivery by the end of 2024. Now, given the undefined extension of time to construct and begin operation of the NGWSP, the City does not know when the surface water will arrive. Over the past 120 years the City has drilled about 45 wells, and only 15 wells are active. Relying on the U.S. and New Mexico's assurances, the City has spent millions of dollars on the Navajo-Gallup Water Supply Project and has not drilled a production well in over 18 years. There is uncertainty in the groundwater production facilities because of lack of active production wells and because the City is paying for the NGWSP which leaves no funds for new well construction and limited funds for well maintenance. The City cannot afford to pay for the surface water pipeline and drill 3000' deep wells that cost about \$3.5 million each.